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Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	Not Known 10/705,495
				Filing Date	11/10/2003
				First Named Inventor	Silver et al.
				Group Art Unit	2621
				Examiner Name	D. Mariam
Sheet	1	of	3	Attorney Docket Number	C97-050 CON12

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
[Signature]		3,069,654		Hough et al.	12-18-1962	382/281
		3,986,007		Ruoff, Jr.	10-12-1976	700/251
		4,146,924		Birk et al.	03-27-1979	700/259
		4,581,762		Lapidus et al.	04-08-1986	382/263
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		4,707,647		Coldren et al.	11-17-1987	382/151
		4,972,359		Silver et al.	11-20-1990	708/424
		5,245,674		Cass et al.	09-14-1993	382/206
		5,343,390		Doi et al.	08-30-1994	382/132
		5,351,310		Califano et al.	09-27-1994	382/199
[Signature]		5,515,453		Hennessey et al.	05-07-1996	382/141
		5,694,482		Maali et al.	12-02-1997	382/151
		5,703,960		Soest	12-30-1997	382/141
		5,828,769		Burns	10-27-1998	382/118

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

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				Filing Date	11/10/2003
				First Named Inventor	Silver, et al.
				Group Art Unit	2621
				Examiner Name	D. Mariam
Sheet	2	of	3	Attorney Docket Number	C97-050 CON12

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
da		COGNEX CORPORATION, "Description Sobel Search," Natick, MA USA, 1998 but public before the above-referenced filing date.	
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da		HU, YU HEN, "CORDIC-Based VLSI Architectures for Digital Signal Processing," IEE Signal Processing Magazine, July 1992, pp. 16-35, 1053-5888/92, USA	
da		HU, et al, "Expanding the Range of Convergence of the CORDIC Algorithm," IEEE Transactions on computers, January 1991, pp. 13-21, Vol. 40, No. 1, USA	
da		Ballard, D.H., "Generalizing the Hough Transform to Detect Arbitrary Shapes," Pattern Recognition, 1981, pp. 111-122, Vol. 13, No. 2, Pergaman Press Ltd., UK	
da		LIN, et al., "On-Line CORDIC Algorithms," IEEE Transactions on Computers, pp. 1038-1052, Vol. 39, No. 8, USA	
da		WALLACK, AARON SAMUEL, "Chapter 4 Robust Algorithms for Object Localization," Algorithms and Techniques for Manufacturing, 1995, pp. 97-148 (and Bibliography pp. 324-335) PhD thesis, University of California at Berkeley, USA	
da		JAMES D. FOLEY, ANDRIES VAN DAM, STEVEN K. FEINER, JOHN F. HUGHES, Second Edition in C, Introduction to Computer Graphics, pp. 36-49, Addison-Wesley Publishing Company, 1994, USA	
da		LISA GOTTESFELD BROWN, A Survey of Image Registration Techniques, Department of Computer Science, Columbia University, New York, NY 10027, ACM Computing Surveys, Vol. 24, No. 4, December 1992	
da		GUNILLA BORGEFORS, Hierarchical Chamfer Matching: A Parametric Edge Matching Algorithm, IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 10, No. 6, November 1988	

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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
db		DANIEL P. HUTTENLOCHER AND WILLIAM J. RUCKLIDGE, <u>A Multi-Resolution Technique for Comparing Images Using the Hausdorff Distance</u> , Department of Computer Science, Cornell University, Ithaca, NY 14853,	
db		I.J. COX AND J.B. KRUSKAL (AT&T Bell Laboratories, Murray Hill, NJ), <u>On the Congruence of Noisy Images to Line Segment Models</u> , IEEE, 1988	
db		DANIEL P. HUTTENLOCHER, GREGORY A. KLANDERMAN AND WILLIAM J. RUCKLIDGE, <u>Comparing Images Using the Hausdorff Distance</u> , IEEE Transaction on Pattern Analysis and Machine Intelligence, Vo. 15, No. 9, September 1993	
db		AKINORI KAWAMURA, KOJI YURA, TATSUYA HAYAMA, YUTAKA HIDAI, TADATASHI MINAMIKAWA, AKIO TANAKA AND SHOICHI MASUDA, <u>On-line Recognition of Freely Handwritten Japanese Characters Using Directional Features Densities</u> , IEEE 1992	

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